

Serial No.: 09/574,921

Docket No.: LMPY-6710

rough surface causing scattering of light transmitted through the substrate to generate a desired minimum number of spatially coherent cells in the laser beam.

24. An apparatus according to claim 23, wherein the transparent substrate comprises at least one material selected from the group consisting of fused silica, quartz glass, calcium fluoride, magnesium fluoride, lithium fluoride, and barium fluoride.

34. The apparatus of Claim 73, wherein the DUV-VUV reflective substrate includes a rough surface having a standard deviation in surface height and a correlation length, the rough surface causing scattering of light reflected by the substrate to generate the desired minimum number of spatially coherent cells in the laser beam.

REMARKS

Applicants appreciate the courtesy extended to the undersigned attorney during telephone discussions on March 14, 2002, March 18, 2002 and March 20, 2002. During those discussions, some amendments to the claims were discussed for putting the case into better condition for allowance. It is respectfully submitted that the case is now in condition for allowance. The Examiner's early reconsideration and further examination are respectfully requested.

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Respectfully submitted,
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--72. (New) An apparatus for reducing speckle of a laser beam comprising a DUV-VUV transparent substrate configured to alter at least a first portion of the beam transmitted through at least a first region of the substrate relative to light transmitted outside of the first region of the substrate, such that the substrate generates a desired minimum number of spatially coherent cells in the laser beam.

73. (New) An apparatus for reducing speckle of a laser beam comprising a DUV-VUV reflecting substrate configured to alter at least a first portion of the beam reflected from a first region of the substrate relative to light reflected from outside of the first region of the substrate, such that the substrate generates a desired minimum number of spatially coherent cells in the laser beam.--

12. (Amended) [An apparatus for reducing speckle of a laser beam comprising a] The apparatus of Claim 72, wherein the DUV-VUV transparent substrate [bearing] includes a periodic phase shift optical coating over [a] the first region, the phase shift optical coating causing a phase shift of light transmitted through the first region relative to light transmitted outside of the first region, such that the phase shift generates [a] the desired minimum number of spatially coherent cells in the laser beam.

13. (Amended) An apparatus according to claim 12, wherein the transparent substrate comprises at least one material selected from the group consisting of [one of] fused silica, quartz glass, calcium fluoride, magnesium fluoride, lithium fluoride, strontium fluoride, and barium fluoride.

14. (Amended) An apparatus according to claim 12, wherein the optical coating comprises at least one [of] material selected from the group of materials consisting of silicon dioxide and silicon nitride.

15. (Amended) An apparatus according to Claim 12, further comprising a [fle] fly eye lens.

16. (Amended) [An apparatus for reducing speckle of a laser beam comprising a] The apparatus of Claim 73, wherein the DUV-VUV reflective substrate [bearing] includes a periodic phase shift optical coating over [a] the first region, the optical coating causing a phase shift of light reflected by the first region relative to light reflected outside of the first region, such that the phase shift generates [a] the desired minimum number of spatially coherent cells in the laser beam.

18. (Amended) An apparatus according to claim 16, wherein the phase shift optical coating comprises at least one [of] material selected from the group consisting of silicon dioxide and silicon nitride.



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23. (Amended) [An apparatus for reducing speckle of a laser beam comprising a] The apparatus of Claim 72, wherein the DUV-VUV transparent substrate [bearing] includes a rough surface having a standard deviation in surface height and a correlation length, the rough surface causing scattering of light transmitted through the substrate to generate a desired minimum number of spatially coherent cells in the laser beam.

24. (Amended) An apparatus according to claim 23, wherein the transparent substrate comprises [one of] at least one material selected from the group consisting of fused silica, quartz glass, calcium fluoride, magnesium fluoride, lithium fluoride, and barium fluoride.

34. (Amended) [An apparatus for reducing speckle of a laser beam comprising a] The apparatus of Claim 73, wherein the DUV-VUV reflective substrate [bearing] includes a rough surface having a standard deviation in surface height and a correlation length, the rough surface causing scattering of light reflected by the substrate to generate [a] the desired minimum number of spatially coherent cells in the laser beam.